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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/739,432	12/18/2003	Lawrence P. Ziehr	GP-301876	9272

7590 04/17/2007  
CHRISTOPHER DEVRIES  
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Detroit, MI 48265-4969

EXAMINER
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FORD, JOHN K

ART UNIT	PAPER NUMBER
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3744

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/739,432	<b>Applicant(s)</b> ZIEHR ET AL.	
	<b>Examiner</b> John K. Ford	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 1/26/07
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2, 4, 6-28 is/are pending in the application.
- 4a) Of the above claim(s) 16-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 3, 4, 6, 7, 12, 15, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 8-11 is/are objected to, if the 35 USC 112, 2<sup>nd</sup> paragraph rejection is overcome without introducing new issues.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

Applicant's response January 26, 2007 has been carefully considered. To the examiner's disappointment, applicant did not address any comments as to how or why the prior art Zeng reference USP 6,094,930 (sharing an inventor with the current inventive entity) was not brought to the examiner's attention prior to first action or if the "follow-up" request with each of the applicants to determine if any other relevant prior art was known to applicants, as set forth in the first paragraph of the previous office action, ever occurred. The examiner wasted a great deal of time, otherwise better spent searching the prior art to others (i.e. non-applicant prior art), finding the Zeng reference. A proper examination in the extremely limited time allotted for searching occurs when an applicant cites the best prior art (known to him or her) pursuant to the statutes and regulations.

Given the drastic change in what is being claimed in claim 27 and amended claim 12 relative to what was claimed in original claims 1 and 12, further discussion of the original rejections is deemed moot. As well some changes made with respect to claim 7 have changed, significantly, the scope of that claim.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 6, 12-15 and 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

When claims 12 and 28 are read in conjunction with one another, it is clear that the "heating loop" is <sup>in</sup> fact the one that has refrigerant (compressed by compressor 154) circulated through it (see claim 12, last two lines and in claim 28, element 138 appears to be the only "dedicated evaporator" that appears to be disclosed, even though it is not described as such in the specification). However when claims 12 and either claims 13 or 14 are read in conjunction with one another, it becomes ambiguous as to whether the "cooling loop" circulates engine coolant or refrigerant. In claim 13, the "cooling loop" is claimed as having a reversing valve (believed to be 150, by disclosure) that was not originally disclosed to be part of the "cooling loop" but rather part of the "heating loop." Claim 14, similarly refers to a plurality of power train components in the "heating loop" which do not exist in the "heating loop" by original disclosure (they only exist in the "cooling loop" as the examiner understands the original disclosure). Thus it is apparent that at least claims 13 and 14 constitute "new matter" and/or are mis-descriptive of the originally disclosed invention. Claims 12, 15 and 28 may also be "new matter" and/or mis-descriptive of the original invention to the extent that claims 13 and 14 can be construed to be descriptive of the originally disclosed invention. Either way these

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inconsistent claims are not supported by the original disclosure and/or are mis-descriptive of it.

Regarding claim 6, there is no original disclosure to support that heater 140 humidifies the air.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 7, 12-15 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

When claims 12 and 28 are read in conjunction with one another, it is clear that the "heating loop" is <sup>in</sup> fact the one that has refrigerant (compressed by compressor 154) circulated through it (see claim 12, last two lines and in claim 28, element 138 appears to be the only "dedicated evaporator" that appears to be disclosed, even though it is not described as such in the specification). However when claims 12 and either claims 13 or 14 are read in conjunction with one another, it becomes ambiguous as to whether the "cooling loop" circulates engine coolant or refrigerant. In claim 13, the "cooling loop" is claimed as having a reversing valve (believed to be 150, by disclosure) that was not originally disclosed to be part of the "cooling loop" but rather part of the "heating loop." Claim 14, similarly refers to a plurality of power train components in the "heating loop" which do not exist in the "heating loop" by original disclosure (they only exist in the

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“cooling loop” as the examiner understands the original disclosure). Thus it is apparent that at least claims 13 and 14 constitute “new matter” and/or are mis-descriptive of the originally disclosed invention. Claims 12, 15 and 28 may also be “new matter” and/or mis-descriptive of the original invention to the extent that claims 13 and 14 can be construed to be descriptive of the originally disclosed invention. Either way these inconsistent claims are not supported by the original disclosure and/or are mis-descriptive of it.

Regarding claim 6, there is no original disclosure to support that heater 140 humidifies the air.

Regarding claim 7, it is unclear how many “possible refrigeration loops” are created or what these possibilities are. Claim 7, lines 3-5 would suggest a “plurality” (taken to mean 2 or more) whereas claim 7, lines 11-12, would suggest “the at least one” would be sufficient. What are you claiming? These two recitations appear to be inconsistent, not to mention that the second recitation “the at least one” has no antecedent basis.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 6, 7, 12-15, 27 and 28 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Burk et al (US 2001/0013409) alone or in view of Hansen (4,128,111).

Burk shows a heating loop and a cooling loop. One of those loops circulates engine coolant and the other of those loops circulates refrigerant. Applicant's claimed HVAC unit is shown at 12, a heater core at 11, an evaporator 4 in thermal communication with the heater core 11 and a blower 13. Regarding claim 2, the claimed "heat exchanger" of claim 27 is shown at 15. Regarding claim 3, a separator 5 is shown that has an arrangement of check valves 24a, 24b, 24c and 24d that permits bidirectional flow and each of these check valves is deemed to inherently have an orifice (where the valve element in the check valve and the seat in the check valve are closest to one another during operation of the device as evidenced by col. 1, lines 23-25, 37 and 45 of Hansen, Hansen being relied in this part of the rejection only to show inherent disclosure in Burk). An outside heat exchanger 6 and the claimed "valve" 19 and/or 20 is shown in Burk. Regarding the accumulator claimed in claim 7, see accumulator 5' and 4-way reversing valve 19 of Burk.

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If an orifice is not deemed inherent in each of the check valves 24a-24d of Burk, to have constructed Burk's check valves to have an orifice as taught by Hanson in col. 1, lines 23-25, 37 and 45 would have been obvious to one of ordinary skill in the art to advantageously make an operable check valve, it being submitted that it would be impossible to make a check valve without some sort of orifice.

Claims 3, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burk as applied to claim 2, 3, 6, 7, 12-15, 27 and 28 above, and further in view of Zeng et al (USP 6,094,930).

To have replaced the separator 5 and associated hardware of Burk with the orifice separator 82 and associated hardware of Zeng to perform the functions described in regard to refrigerant circuit of Figures 14 and 15 of Zeng corresponding to the same functions in Burk would have been obvious to one of ordinary skill in the art to advantageously reduce the cost and improve performance and reliability (as explicitly taught by Zeng col. 2, lines 44-48, incorporated here by reference).

Claims 8-11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, <sup>of claim 7,</sup> set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.



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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

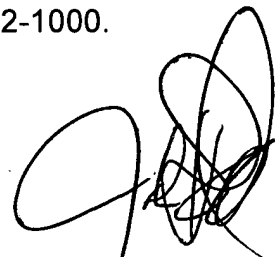
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**John K. Ford**  
**Primary Examiner**